

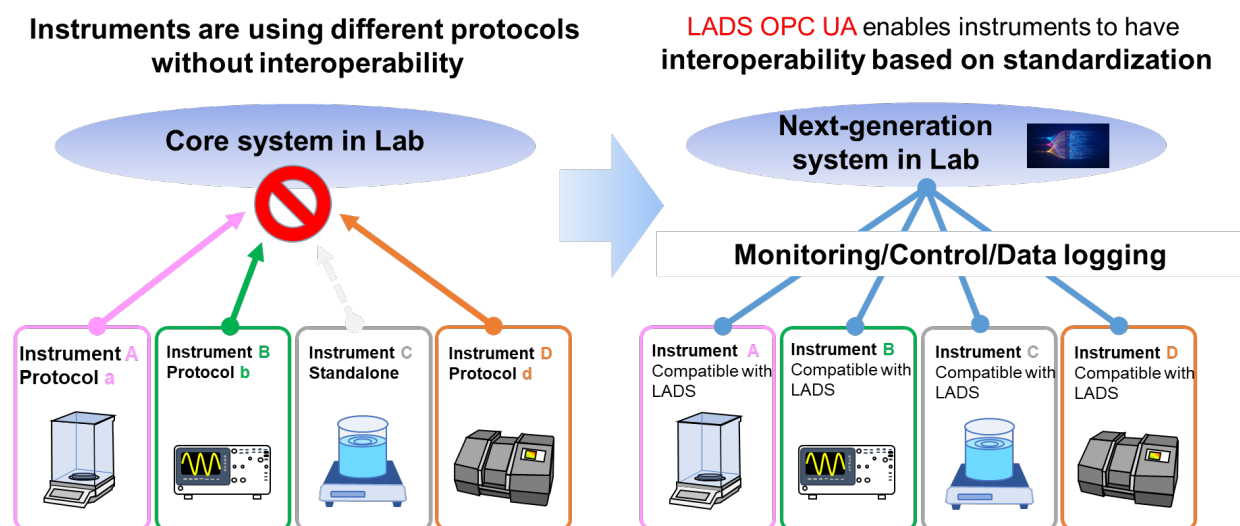
August 29, 2024

Mitsubishi Chemical Group Corporation

Japan Analytical Instruments Manufacturers' Association

Promotion of a communication and interoperation standard connecting instruments for next-generation laboratories

Mitsubishi Chemical Group (MCG Group)^{*1} and the Japan Analytical Instruments Manufacturers' Association (JAIMA) have agreed to conduct a joint PoC (Proof of Concept) demonstration for the Laboratory and Analytical Device Standard (LADS) OPC UA^{*2}, a communication standard for interoperability between experimental instruments and analytical instruments running on different platforms in laboratories, with the aim of verifying its usability and promoting its wide use in order to realize next-generation laboratories through digital transformation.



In laboratories, researchers are pushing forward the digitalization of experimental instruments and automation of their operation to dramatically improve both quality and quantity in data acquisition, management and analysis in material development processes. However, most experimental instruments are designed to be standalone without communication capabilities or to run with a proprietary communication protocol and software, which hampers the digitalization and automation.

To solve this problem and promote digital transformation for next-generation labs, the MCG Group and JAIMA will work together to achieve plug-and-play^{*3} interoperability of experimental instruments by making LADS OPC UA come into wide use in laboratories. When experimental instruments support LADS OPC UA, researchers will be able to have remote monitoring, controlling, and logging capabilities easily and securely. LADS OPC UA will allow efficient orchestration between experimental instruments and researchers, facilitating lab automation with fewer engineering time, cost and technical constraints.

Through the PoC, the MCG Group and JAIMA will promote digital transformation for next-generation labs in which instruments and systems are easily connectible in many ways suitable for material research and development.

The two parties are planning to show their initiative for LADS OPC UA at JASIS*⁴, which will be held at the Makuhari Messe convention center from September 4 to 6, 2024.

JASIS website: <https://www.jasis.jp/>

*¹Mitsubishi Chemical Group collectively refers to Mitsubishi Chemical Group Corporation and its group companies.

*² OPC UA: Open Platform Communications Unified Architecture. An open standard developed to enable safe and reliable data exchange between equipment and software used in sectors including industrial automation. The OPC Foundation established it in 2006 and it became an international standard as IEC62541. LADS is a standard for building and operating information models for experimental instruments and applications used in laboratories. It employs the capabilities, data structures, communication formats, and security functions provided in IEC62541.

*³Plug and play (PnP) instruments are usable without device configuration or user intervention.

*⁴JASIS is an exhibition where analytical instrument manufacturers and scientific instrument manufacturers come together to show their cutting-edge instruments, systems, and solutions.

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